Small Business Innovation Research/Small Business Tech Transfer

DAAS: Data Analytics for Assurance of Safety, Phase II

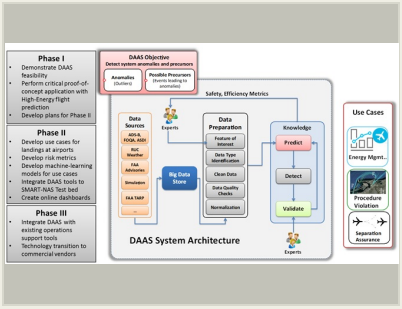
Completed Technology Project (2017 - 2020)

Project Introduction

One of the challenges faced by the National Airspace (NAS) stakeholders in general and the Air Navigation Service Provider (ANSP) i.e., Federal Aviation Administration (FAA) in particular is the effective maintenance of safety in presence increasing demand by manned traffic and with introduction of Unmanned Air System (UAS) in the near future. Since there is going to be more traffic within in the same airspace volume some of the current event based, human centric safety mechanisms that are going to be overwhelmed. DAAS architecture addresses the overall requirement for ensuring safe operations in the NAS while embracing its complexity and leveraging the advancements in machine learning through one simple architecture. The single architecture can spawn tools focused at ensuring safety different areas of operation while being able to share information among them. The tools developed using DAAS will provide invaluable support to NASA and industry researchers in identifying, diagnosing and discovering the impacts of NextGen technologies on NAS safety and efficiency.

Anticipated Benefits

Our proposed technique can be used for a wide range of remote sensing applications for NASA and other parts of US government including: - Safety analytics tool for SAMRT-NAS Test Bed - Big data repository for aviation data - Decision support tool for controllers and pilots - Safety analytics plugin for ACES, FACET and other legacy simulation tools - Aviation safety incident discovery tool to search for and prepare use casesThe most promising Non-NASA commercial applications are: - Safety analytics for future technologies - Real time assessment of airline network for safety and efficiency



DAAS: Data Analytics for Assurance of Safety, Phase II Briefing Chart Image

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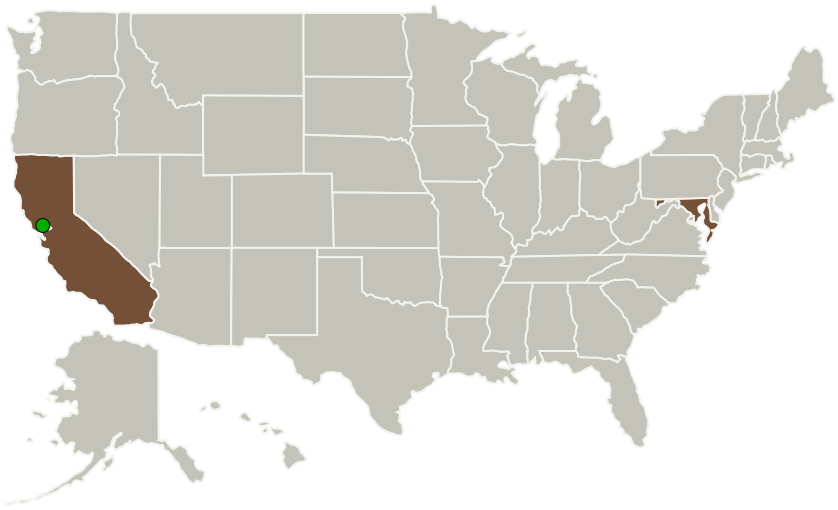
Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Intelligent Automation, Inc.	Lead Organization	Industry	Rockville, Maryland
Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

Primary U.S. Work Locations	
California	Maryland

Project Transitions

May 2017: Project Start

June 2020: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/141093)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Intelligent Automation, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Project Managers:

Nikunj C Oza
Ryszard L Pisarski

Principal Investigator:

Ankit Tyagi

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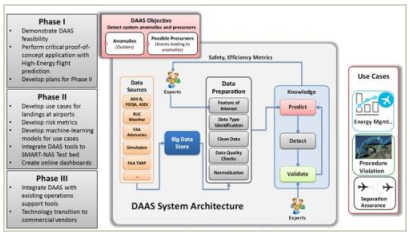
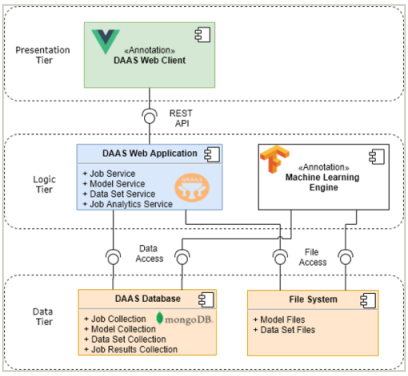
Images



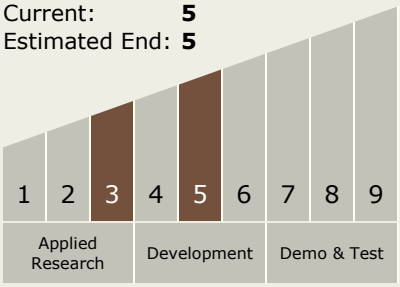
Briefing Chart Image
DAAS: Data Analytics for Assurance of Safety, Phase II Briefing Chart Image *(https://techport.nasa.gov/image/135600)*



Final Summary Chart Image
DAAS: Data Analytics for Assurance of Safety, Phase II *(https://techport.nasa.gov/image/126814)*

Technology Maturity (TRL)

Start: **3**
Current: **5**
Estimated End: **5**



Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System